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GUIDE *to* PACHMARHI

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GUIDE TO PACHMARHI

GENERAL DESCRIPTION

Pachmarhi, the hill-station of the Central Provinces, is situated on an isolated plateau in the Mahadeo hills of the Satpura range in the south-eastern corner of the Hoshangabad district. It lies 21 miles almost due south of Piparia station on the Itarsi-Jubbulpore section of the Great Indian Peninsula Railway, with which it is connected by an excellent motor road, 32 miles in length, traversed by a daily motor mail service and by a telegraph line. It is reached from Nagpur and the south by a metalled road *viâ* Chhindwara, which joins the Piparia road at Matkuli, situated at the foot of the hills 18 miles distant from Pachmarhi. The plateau has an area of about nine square miles and its average altitude is about 3,500 feet above sea level.

All round the plateau rise a number of hills of interesting outline, the highest of which is Dhupgarh, 4,429 feet above sea level. Except on the east, where it is approached by the Piparia road by more or less easy gradients, the plateau is cut off from the surrounding plains by precipitous cliffs and deep gorges.

Pachmarhi is the residence of the local Government of the Central Provinces for 3 months from April to June and six weeks in September-October and is also the sanitarium of the troops in the Central Provinces area. A School of Small Arms is also established here, and classes are held all the year round except for two months in the rains. There is a municipality and a cantonment. The total area of the sanitarium is 23 square miles, of which 19 are classed as forest; about 5 square miles lie in the cantonment, while the remainder is included in municipal limits. The population which resides chiefly in cantonments was returned in 1931 as 6,136, but during the summer season it is considerably larger. Owing to its moderate elevation, Pachmarhi affords but a partial relief from the heat of the plains in the summer, and its average temperature is only about 10 degrees less than that of the Hoshangabad valley. The average maximum and minimum temperatures of Pachmarhi in the months of May and July are 95.1° and 75.1° and 75.8° and 68° respectively. But even in the hottest months a cool breeze almost always blows, and except for a short period in the middle of the day the heat is never oppressive. During September and October, after the cessation of the rains, the climate is cool and bracing. The rainfall is heavy, amounting to about 79 inches annually, nearly the whole of which is received between June and September. But the rains are by no means unpleasant. The air is fresh and cool, and though the rain is

heavy and sometimes continuous, the plateau is usually free from mist.

The discovery of Pachmarhi as a sanitarium is generally attributed to Captain J. Forsyth, the author of “*The Highlands of Central India,” who was sent in 1862, under the instructions of Sir Richard Temple, the Chief Commissioner of that day, to explore this portion of the Satpura forests. The name of the forest lodge which he built here and called Bison Lodge is still preserved by a house erected subsequently on the same site. The plateau was at that time occupied by the Korku Jagirdar of Pachmarhi, but there are traces of a much older civilisation. The name Pachmarhi is a corruption of *Panch Mathi* (or five huts) and is derived from five ancient caves, which have been hewn in a small hill rising abruptly from an open part of the plateau. Brahmanical tradition claims these caves as one of the places at which the five Pandava brothers sojourned during the period of their wanderings, but there is some reason for supposing that they are of Buddhist origin. Captain Forsyth connected this usurpation with the legend that made the neighbouring ravine of Handi Kho the retreat of a monstrous serpent, which formerly inhabited a lake on the plateau and vexed the worshippers of Mahadeo, till the God dried up the serpent's lake and imprisoned the snake himself in this rift, formed by a stroke of his trident in the solid rock.

SCENERY AND SURROUNDINGS

The characteristics of Pachmarhi scenery are its forest glades and its ravines or *khuds*. The hills which stand sentinel around the plateau, though often presenting a rugged and striking outline, are not of great height. But the nature of the prevailing sandstone, which is of great depth and which succumbs readily to denudation, has encouraged the formation, under the action of water, of a maze of gorges and ravines, always picturesque, and sometimes of great grandeur. In contrast to these are the fine stretches of grassy glade, interspersed with clumps of *saj*, *sal*, *harra*, and *jamun* trees, which cover the level plateau. Here too are a number of small and easily accessible eminences, each of which commands a splendid prospect of distant hills and valleys, scarcely inferior to Pachmarhi itself in natural beauty. One of the chief charms of Pachmarhi scenery is its wonderful colouring, especially in the evening light, "when the rich reds of the sandstone scrap mellow into an indescribable variety of delicate shades of purple and violet in the evening sun, while broad belts of shadow thrown across green slopes at the foot, and gathering in the recesses of the ravines, seem to project the glowing summits of the rocks to an unnatural height in the soft orange-tinted sky". For a few minutes after sunset, too, the sky often assumes a splendid purple tint, and a fleeting 'after-glow' lights up the hills.

Captain Forsyth, the discoverer of Pachmarhi, has left a vivid picture of its scenery, which may

claim to be considered classical, and its reproduction here needs no apology, as an introduction to the visitor approaching Pachmarhi for the first time. Describing his first approach to Pachmarhi, he writes: "When an elevation of "about 2,000 feet (above the sea) had been "attained, the character of the scenery began to "change. Vertical scarps of the red sandstone "which forms the higher plateau began to rise "into view at every turn of the path, which now "plunged into narrow and gloomy glens, following the boulder-strewn bed of a small stream. "The dried and yellow grasses and naked tree "stems of the lower slope gave place to a green "vegetation thickly covering the soil, and in "places almost meeting overhead. The moist "banks of the stream were covered with ferns "and mosses, and the clear sparkle of the little "brooks appeared singularly refreshing after our "long walk uphill in the heat of a sultry and "lowering day. After scrambling thus along the "sides and bottoms of ravines for some miles, "steadily rising at the same time, we suddenly "emerged through a narrow pass, and from under "the spreading aisle of a large banyan tree (from "which this pass gets its name of the Barghat), "on to an open glade, covered with short green "grass, and studded with magnificent trees, which "I found was the commencement of the plateau "of Pachmarhi. Heavy masses of cloud had now "gathered overhead, and large drops of rain "began to fall, betokening, as it proved, the coming of one of the short but severe storms to

“which these hills are liable at this season. The
“village of Pachmarhi was still some miles dis-
“tant and we hurried along over the now almost
“level plateau to get shelter as soon as possible,
“as we had already walked about seventeen
“miles, and the sun was almost set. The road
“now lay over a hard and gently undulating
“sandy soil, crossed by many small streams run-
“ning swiftly in their rocky beds. Immense
“trees of the dark green harra (*Terminalia*
“*Chebula*), the arboreous jamun (*Eugenia*
“*Jambolana*) and the common mango dotted
“the plain in fine clumps, and altogether the
“aspect of the plateau was much more that of a
“fine English park than of any scene I had before
“come across in India. By and by, through the
“vistas of the trees, three great isolated peaks
“began to appear, glowing red and fiery in the
“setting sun against the purple back-ground of a
“cloud bank. The centre one of the three, right
“ahead of us, was the peak of Mahadeo, deep
“in the bowels of which lies the shrine of the
“God himself; to the left, like the bastion of
“some giant’s hold, rose the square and abrupt
“form of Chauradeo, while to the right, and
“further off than the others, frowned the sheer
“scarp of Dhupgarh, the highest point of these
“Central Indian highlands. I found that the
“plateau had something of a cup-like shape,
“draining in every direction from the edges
“into the centre, where two considerable
“brooks receive its waters and carry them over
“the edge in fine cascades. The general eleva-
“tion of this central valley is about 3,400 feet, the

“ridge surrounding it being a few hundred feet
“higher, and here and there shooting into abrupt
“peaks, of which the three I had seen the even-
“ing before attain a height of 4,500 feet. The
“area of the plateau is altogether twelve square
“miles, some six of which in the centre resemble
“the portion I had before passed through, and
“consist of fine culturable, though light, soils.
“Everywhere the massive groups of trees and
“park-like scenery strike the eye; and the
“greenery of the glades, and various wild flowers
“unseen at lower elevations, maintain the illusion
“that the scene is a bit out of our own temperate
“zone rather than of the tropics. Though the
“ascent on the side I had come up was generally
“gradual, I found that in all other directions the
“drop from the plateau was sudden and precipitous.
“There are three other pathways by which a man can easily, and an unladen animal
“with difficulty, ascend and descend. The view
“from the edge of the plateau, in almost any
“direction, is singularly fine; and a still more
“extensive sweep is commanded from the tops
“of the higher peaks. To the south, as far as the
“eye can see, lie range upon range of forest-
“covered hills, tumbled in wild confusion. To
“the east a long line of rampart-like cliffs mark
“the southern face of the Mahadeo range, the
“deep red of their sandstone formation contrasting
“finely with the intense green of the bamboo
“vegetation, out of which they rise. Here and
“there they shoot into peaks of bare red rock,
“many of which have a peculiar and almost

“fantastic appearance, owing to the irregular
“weathering of their material—beds of coarse
“sandstone horizontally streaked by darker bands
“of hard vitrified ferruginous earth.

“Looking across this wall of rock, to the north-
“east, a long perspective of forest-covered hills
“is seen, the nearer ones seeming to be part of
“the Pachmarhi plateau though really separated
“from it by an enormous rift in the rock, the
“further ranges sinking gradually in elevation,
“till, faint and blue in the far distance, gleams
“the level plain of the Nerbudda Valley. Stand-
“ing on the eastern edge of the plateau, again,
“the observer hangs over a sheer descent of
“2,000 feet of rock, leading beyond, in long
“green slopes, down to a flat and forest-covered
“valley. Its width may be six or seven miles, and
“beyond it is seen another range of hills rising in
“a long yellow grass-covered slope, dotted with
“the black boulders and ending in the scarped
“tops that mark the trap formation. That is the
“plateau of Motur (Mohtoor) with which the
“general continuation of the Satpura range again
“commences, after the break in it occasioned by
“the Mahadeo group. On this side the forest
“that clothes the valley and the nearer slopes
“presents a very dark green and yet brilliant
“colouring, which will be noted as differing from
“the vegetation in any other direction. This is
“the sal forest, which I have mentioned before as
“forming so singular an outlier far to the west of
“the line which otherwise limits the range of
“that tree in Central India. It fills this valley

“of the Denwa, almost to the exclusion of other
“vegetation, and creeping up the ravines, has
“occupied also the south-eastern portion of the
“plateau itself. A remarkable feature in the
“configuration of the plateau is the vast and un-
“expected ravines or rather clefts in the solid
“rock, which seam the edges of the scarp, some
“of them reaching in sheer descent almost to the
“level of the plains. You come on them during
“a ramble in almost any direction, opening
“suddenly at your feet in the middle of some
“grassy glade. The most remarkable is the
“Andeh-Koh (Handi Kho), which begins about
“a mile to the east of the village, and runs right
“down into the Denwa Valley. Looking over
“its edge, the vision loses itself in the vast pro-
“fundity. A few dark indigo-coloured specks at
“the bottom represent wild mango trees of sixty
“to eighty feet in height. A faint sound of run-
“ning water rises on the sigh of the wind from
“the abyss. The only sign of life is an occasion-
“al flight of blue pigeons swinging out from the
“face of either cliff, and circling round on sus-
“pended pinion, again to disappear under the
“crag. If a gun is fired, the echoes roll round
“the hollow in continually increasing confusion
“till the accumulated volume seems to bellow
“forth at the mouth of the ravine into the plain
“below. Another very striking ravine called
“Jambu Dwip, lies on the opposite side of the
“plateau from the Andeh-Koh. About a thou-
“sand feet of steep descent, down a track worn
“by the feet of pilgrims, leads to the entrance

“of a gorge, whose aspect is singularly adapted
“to impress the imagination of the pilgrim to
“these sacred hills. A dense canopy of the wild
“mango trees, overlaid and interlaced by the
“tree-like limbs of the giant creeper, almost shuts
“out the sun; strange shapes of tree ferns and
“thickets of dark and rotting vegetation cumber
“the path; a chalybeate stream, covered by a
“film of metallic scum, reddens the ooze through
“which it slowly percolates, a gloom-like twilight
“shrouds the bottom of the valley, from out of
“which rises on either hand a towering crag of
“deep red colour, from the summit of which
“stretch the ghostly arms of the white and naked
“*Sterculia Urens*, a tree that looks as if the
“megatherium might have climbed its uncouth
“and ghastly branches at the birth of the world.
“Further on, the gorge narrows to a mere cleft
“between the high cliffs, wholly destitute of
“vegetation, and strewn with great boulders.
“Climbing over these, and wading through the
“waters of a shallow stream, the pilgrim at length
“reaches a cavern in the rock, the sides and
“bottom of which have been, by some peculiar
“water action, worn into the semblance of gigan-
“tic matted locks of hair; while deep below the
“floor of the cavern, in the bowels of the rock,
“is heard the labouring of imprisoned waters
“shaking the cave. It is small wonder that such
“a natural marvel as this should be a chosen
“dwelling place for the god to whom all these
“mountains are sacred, and that it forms one of
“the most holy and indispensable points in

“the circuit which the devout pilgrim must perform.”

POINTS OF VIEW

Most of the good view points and places of interest have been named, and access to them facilitated by the construction of paths. These are described in the list which follows and the directions given, with the assistance of the accompanying map, will indicate their whereabouts. Tastes in such matters must naturally differ, but perhaps the best views of the plateau itself can be obtained from Lansdowne Hill, which is marked by a monument to commemorate the visit of Lord Lansdowne when Viceroy, and from the top of the ancient caves. Of the khuds, Handi Kho and Jambu Dwip described above are the most striking, while Waters Meet and Saunders' Pool, which combine the beauties of rock and water scenery, are the most picturesque. A fine view over the Nerbudda valley can be obtained from the Piparia road above the little hamlet of Bariam; and Clematis Point and Colleton Crag command equally magnificent prospects of the hills and valleys of the Chhindwara jagirs, the dâk-bungalow at Tamia on the summit of the opposite ghat, 20 miles away, being clearly discerned in favourable weather. Good waterfalls are not numerous, and except in the rains the flow of water is nearly always small, but the surroundings of Big Fall are in themselves sufficient to redeem it from insignificance, while Bee Fall is at any time well worth a visit. An interesting and easy excursion can be made to

the sacred cave and shrine of Mahadeo at the foot of Mahadeo hill; the way lies through charming woodland scenery, and commands striking views of crag and ravine. Of the surrounding peaks, Dhupgarh (4,429 feet), the highest summit of the Satpura range, is much the most frequently ascended. A dâk-bungalow has been built a short distance from the top, and two bridle paths have been constructed to it. The view to the west, looking over the Bori valley and the Betul hills, is especially beautiful at sunset and in the early morning before sunrise. The precipitous Chauragarh (or Chauradeo) (4,317 feet) is a somewhat arduous ascent, but the scenery is more rugged and imposing, while the pilgrims' path to the sacred summit, crowned with a stack of tridents, the emblems of Mahadeo's worship, has an interest of its own. Government has constructed a "stepped" path to the summit in order to make the ascent easier for pilgrims. But perhaps the finest of all the views to be obtained in the vicinity of Pachmarhi is that from Mahadeo (4,384 feet), which is easily climbed by a direct but little-known route rather difficult to pick out. On one side rise the crags of Chauragarh, and on the other the splendid scraps of Dhupgarh; far below lies the green Denwa Valley, backed by the sunny hills and dales of Chhindwara; to the north are the woods and the plateau of Pachmarhi; and beyond this the broad level plain of the Nerbudda, broken only by the hills of Fatehpur and the north Denwa forests, melts away into the shadowy outline of the

Vindhyan Hills. There are many lesser peaks around Pachmarhi. Some are not easily accessible, and progress is often barred by an unexpected and impassable khud. The rock of the Pachmarhi hills is rough and well weathered, and offers some tempting work for the cragsman, but experience and caution are necessary, especially after rain, when the rock breaks away easily. Exploring unknown parts of the ravines is to be undertaken with caution. It is easy to lose one's way, and more than one explorer has had to be rescued by search parties.

ROADS AND PATHS

The plateau lying beyond the residential area is traversed by two fine metalled roads, called the Long Chakkar and the Short Chakkar, about eight miles and four miles respectively in length. These afford attractive motor drives through park and woodland scenery. From the Long Chakkar diverge a number of roads of motorable surface that lead to points on the edge of the plateau commanding views of wild cliffs and forests. Bridle paths lead in various directions among the woods of the *maidan*, which has an excellent surface for riding. Footpaths have been made to most of the view points on the plateau and to the bathing resorts on the streams in the khuds down below, which are in great favour for picnics. Altogether there are 40 miles of bridle and foot paths, and the horseman or pedestrian who devotes himself to exploring them will be astonished at the wealth and variety

of view and landscape that the comparatively small area of the plateau can offer him.

ADMINISTRATION

The possibilities of Pachmarhi were first explored in 1862, when Captain Forsyth visited the plateau for the purpose of establishing a forest dépôt. In 1869 it was decided to establish a local sanitarium, and an area of 662 acres was acquired for it. In 1870 the establishment of a military station was contemplated, and 200 men from Saugor and Kamptee were actually posted to Pachmarhi as an experimental measure. In the following year some 15,000 acres were taken up, including the whole plateau and some of the surrounding valleys. The administration is divided between the Cantonment Committee and the Municipal Committee, the large forest area of the plateau being managed by a joint committee composed of members deputed from each of these bodies. In the area comprised in Cantonment limits are situated the rifle ranges, offices, barracks, and messes of the Small Arms School, soldiers' family quarters for the sanitarium, and the Military Station Hospital, and also the residences of the staff and a number of privately owned bungalows. It also includes the sadar bazar, the only bazar area in Pachmarhi. The executive control of the Cantonment vests in the hands of the Cantonment Executive Officer. The municipal area is occupied by Government House and the official bungalows of officers of the local Government, the Club and Hotels, the bungalows of private owners, the public offices

and the Public Gardens. The Naib-Tahsildar, who is also Secretary to the Municipal Committee, is in executive charge of the civil area, under the supervision of the Deputy Commissioner of Hoshangabad.

CHURCHES.

The Church of England and the Roman Catholic Church both possess places of worship, the Roman Catholic Church having been completed in 1923. A Roman Catholic Chaplain is permanently stationed in Pachmarhi, while a Church of England Chaplain is generally posted to the station for the hot weather season, and the Bishop of Nagpur is also usually in residence for the period from April to June.

RESIDENTIAL ACCOMMODATION

The principal building in the municipal area is the residence of the Governor of the Central Provinces, which stands in a beautifully laid-out garden and commands a fine vista up to Dhupgarh. Residences for the principal officials of Government are provided in bungalows and Circuit Houses maintained by the Public Works Department. In Cantonments there are Military Works or private bungalows available for officers of the Small Arms School, Cantonment and Sanitarium Staffs. Besides these, there are also a number of privately owned bungalows which are let fully furnished to visitors from season to season or for longer periods. There are two hotels. The Hill Hotel is conveniently situated in close proximity to the Pachmarhi

Club. The other, the Royal Hotel, has accommodation for some 25 to 30 visitors in the main building and in annexes situated close to it. There are also one or two private boarding establishments with accommodation for a limited number of guests.

BAZAR

The local bazar contains a few shops of dealers in general stores and goods such as are usually found in similar small up-country stations. There is a regular motor and cart service from Piparia Railway Station which is on the main line between Calcutta and Bombay. This largely minimises the inconvenience attaching to the remote and isolated situation of Pachmarhi, which is one of the charms of the place. Petrol and other motor requisites, as well as motor vehicles on hire, can be obtained from the Pachmarhi Motor Service Company, who are the Government Agents for the carriage of mails and passengers.

WATER-SUPPLY

The water-supply of Pachmarhi for drinking and domestic purposes is derived from a large number of wells, which afford a plentiful and good supply all the year round.

PUBLIC GARDENS

The Government Gardens lie close to the Tahsili and comprise an area of 12.55 acres. A subsidiary garden at Pagara, 8 miles from Pachmarhi on the Piparia road, helps to supplement the supply of fruit and vegetables for which there is a very keen demand all the year round and particularly in the two seasons. The

gardens in the first season are one of the show places of Pachmarhi and are justly famed for their fine display of flowers and for their supply of vegetables and to a lesser extent of fruit. All the commoner English varieties of vegetables, which on the plains grow only in the cold weather are produced in abundance both in the summer and winter months and the supply dwindles only with the break of the monsoon. The soil and climate of Pachmarhi have been found most suitable for the cultivation of potatoes and excellent crops are grown, both in the gardens and also by local cultivators. Fruit of one kind or another is supplied throughout the year; peaches, plums, raspberries, mulberries, plantains, papayas and mangoes being available in small quantities in the hot weather while raspberries, papayas, plantains and pineapples are supplied in the rains. As is the case with vegetables, many kinds of flowers which grow only in the cold season in the plains, bloom to perfection in Pachmarhi in the hot weather months and the gardens present an ever-changing kaleidoscope of colour as the different varieties reach maturity. Roses do particularly well, yielding 3 to 4 crops each year. In the second season, dahlias and chrysanthemums are the chief feature. Flower and vegetable seed is imported from Europe and Australia and after acclimatization is stocked for sale.

LAKES, ETC.

There is only one small artificial lake in the Cantonment area. This is used mainly for watering cattle and washing carts, etc.

RECREATIONS — PACHMARHI CLUB

There is a well-equipped Club, situated next to the Hill Hotel, which provides the usual social amenities and facilities for recreation. There are six hard tennis courts, besides which several of the bungalows have private tennis courts of their own. The Club also possesses a hockey ground for the use of members.

GOLF

The Lansdowne Golf Club has an 18-hole course of 5,546 yards (bogey 75). The Links are at their best just at the close of the rains, and in the month of October would probably be found to compare very favourably with most up-country courses. Periodical competitions are held during the season, and in October the annual handicap competition takes place for the Lansdowne Gold Medal, which is open to all persons resident in the Central Provinces.

BATHING

The bathing pools of Pachmarhi are one of the great attractions of the place. The largest and most frequented of these is that known as Bee Dam, which is situated about half a mile down from Government House at a picturesque spot on the Bee stream. The pool is an artificial one formed by the erection of a masonry dam across the stream, and was constructed in 1920 from funds provided by the Pachmarhi Club. The pool is deep and fairly spacious and affords ample facility for swimming and diving. The

Club holds a lease for the area enclosing the upper waters of the stream and the pool. Other favourite bathing pools are Waters Meet, Pansy Pool and Patharchatta, all on the Denwa river, and Fairy Pool. All these spots are in great demand for picnics.

FAUNA AND FLORA

Though animal life is less profuse than might be expected in a place situated like Pachmarhi, there is much to interest the ornithologist and botanist. Notes on the various species of plants, birds, animals and insects that have been found on or in the vicinity of the Plateau are provided on pages 43—74.

NOTES ON VIEW POINTS AND RESORTS

The following is a list of the better known view points and resorts in the vicinity of Pachmarhi with brief descriptions of each and of the route by which they are approached. The reference numbers against the places are reproduced in red figures on the map of the plateau attached to the guide. Direction posts on the Long and Short Chakkar Roads and on the roads and drives leading into these indicate the way to most of the popular resorts:—

1. *Little Falls*.—Distance from Post Office nearly 2 miles. There is a good path leading off the Cantonment Road to the falls which passes south of the Bazar and near the office of the School of Musketry and the married quarters. The falls are only worth visiting during

or immediately after, heavy rain. At such times they afford an awe-inspiring spectacle as practically the whole run-off of the plateau comes over these falls. The first fall is about 70 feet followed by another of about the same height.

2. *Mayhew Peep*.—A rather inaccessible-looking flat-topped hill, a conspicuous object east of the Piparia road about a mile and a half from Pachmarhi. Can be scaled without great difficulty on the south-west side. It is best approached from the octroi naka, first a quarter of a mile or so across the level ground in an easterly direction past the segregation camp and then down a ridge which constitutes the main watershed between two large streams flowing respectively north and south of the Mayhew Peep Hill. There is no water on this hill. Fine views are obtained from various points on the summit.

Distance about $1\frac{1}{2}$ mile from octroi naka on the Pipariya road.

3. *Kitty Crag*.—About $2\frac{1}{2}$ miles from the octroi chauki. The path, which is not well defined, passes just south of Mayhew Peep (No. 2). Water is found at a point about half way. Climbing the hill presents no real difficulty. There is a very fine view from the top.

4. *Maroaeo or Sambourne Caves*.—These caves are situated at a distance of about 2 miles north-east from Pipariya road near the house formerly the property of the Begum of Bhopal.

It is best to take a guide when visiting these caves as they are not very easy to find. The bottom of the main cave is reached by means of a short wooden ladder, whence there is an underground passage about 50 yards long leading to another cave. Lights should be taken when exploring these caves.

5. *The Catacombs*.—To reach these caves go straight on along the path to the Sambourne Caves No. 4 and about $\frac{1}{4}$ mile on downhill. The first indications of the caves are two large round holes in the ground on the left hand side. These are sky lights, and called Jane's Folly. (See sketch on page 82.) After 50 yards the path turns to the left and goes down a rather steep incline in a semi-circle right to the mouth of the caves. To explore the caves one must have some form of artificial light, preferably an electric torch. The first cave leads into a second one on the same level; the ascent to the other caves has to be climbed. The Catacombs should be easily found, once Sambourne Caves have been reached.

6. *The Nimbu Bhoj*.—This is a patch of wild lemons growing in the upper portion of the Jambu Dwip ravine. It is reached by following the stream which passes under the bridge about 200 yards beyond the house of the Mail Motor Company. The valley below the Nimbu Bhoj may be explored for some distance among gigantic boulders. Finally there is a vertical drop to Jata Shankar (No. 7) which is impossible to negotiate without a rope. With the aid of a good rope it is possible to climb down to Jata.

Shankar (No. 7) by way of a broad hole among the loose rocks.

7. *Jata Shankar*.—A cave under a mass of loose boulders and the source of the Jambu Dwip (No. 8) stream, reached by a footpath starting from near the Civil Dispensary. Distance $1\frac{1}{2}$ miles with a descent of some 350 feet. No headwork.

8. *Jambu Dwip or Dip*.—A pretty, open part of the Jambu Dwip valley near the stream. About a mile downhill from the Civil Hospital.

9. *Chota Mahadeo*.—Reached by the path mostly downhill from the Civil Hospital, about two miles. It is at a narrow point in the valley where rocks overhang the stream (Jambu Dwip No. 8) and water falls from above from a small spring above a big mango tree. It is a sacred spot with the local Hindus.

10. *Machli-ka-maur hill*.—This is a ridge separating the Bee stream from Jambu Dwip (No. 8). It can be climbed fairly easily from the east, and with difficulty up the south face. The rocks on the summit are carved into weird shapes and there are many interesting points worth exploring on this ridge.

11. *Bee-dam*.—The main stream which feeds the Bee-dam pool rises between Government House and Deep Dene. A short distance from its source it disappears underground, down a large depression or pot-hole and re-appears some

150 feet lower. This underground passage is passable for a man crawling on all fours. It is advisable to take a light. An interesting excursion of about 5 miles is obtained by following the Bee stream down to its junction with the Jambu Dwip (No. 8) stream and then following the latter up to Chota Mahadeo (No. 9) and so home. It is rough going in places and it is well to be prepared for a wetting. The scenery is however very fine.

12. *Club Hill*.—A short easy climb from the back of the Club, 300 vertical feet. The view from the top is very fine in all directions. This hill can be climbed with difficulty on the north face also.

13. *Lanjee Hill*.—A little higher than Club Hill (No. 12). Can be scaled fairly easily from east or west. Some nice rock-climbing on the summit. Near the western summit there is an underground passage leading down the northern face easily. Following down the northern face in the sal forest below is a curious isolated overhanging rock, which is also scalable without much difficulty.

14. *Fanshawe Khud*.—A view point, with a seat, approached by the motor road round the Short Chakkar.

15. *Belle Vue*.—Another view point with a similar though better view than the last. Reached by the motor road round the Short Chakkar and a half mile "kacha" road.

16. The adjoining hill (wrongly named Monte Rosa in the old 8" map) is not difficult to climb from the west and has a good view from the top of the solitary leaning rock on the summit.

17. *Dorothy Deep*.—A pretty little meandering stream which rises from below the north face of Monte Rosa (No. 21) and flows through beds of Osmunda fern and pink flowering melastoma to a sudden vertical fall overlooked by a shady ledge in the rock. It is reached by the ordinary bridle path from Belle Vue (No. 15) for about one mile, and then by an ill-defined footpath down a ridge bearing to the left.

There is no difficult climbing or head work; in fact a hill pony would almost do the trip. Distance from Belle Vue (No. 15) $1\frac{1}{2}$ miles. Descent 400 feet.

18. *Duches Falls*.—Two miles along the above bridle path from Belle Vue (No. 15) and half a mile down a very steep footpath branching off from a point marked by a notice board labelled "Saunders' Pool" brings one to Duchess Falls, a picturesque and cool spot in the hot weather.

19. *Saunders' Pool*.—Crossing the stream below Duchess Falls (No. 18) and following a footpath for less than a mile in a southerly direction brings one to a fine big rocky pool in the Jambu Dwip stream (No. 8). A good swimming pool.

20. *Daisy Khud*.—A view point with a seat between Monte Rosa (No. 21) and Do Crag (No. 23). It is on the bridle path leading round Monte Rosa from Rich Garh to Belle Vue, and is only a short walk from the former. Water available a good distance down the khud.

21. *Monte Rosa*.—This is a conspicuous hill with two summits separated by a deep unscalable chasm. The western peak can be climbed from the western side only. This ascent is not difficult to anyone with a good head. The eastern peak can be climbed by at least five different routes which are all more or less difficult, the easiest being that on the south face.

The other routes are on the east and north-east. The views obtained from either summit are extremely fine. Monte Rosa may be approached by way of Rich Garh (No. 22), or from Belle Vue.

22. *Rich Garh*.—A wonderful natural amphitheatre in the rock, approached through a cave-like entrance on the south side, the exit on the north side towards Monte Rosa (No. 21) being by way of a narrow dry water course. It is a favourite haunt of bees. It is approached by a foot path marked by a notice board on the Long Chakkar, from which it is distant only about $\frac{1}{4}$ mile.

There is a seat on the top of the rock on Rich Garh from which there is a good view.

23. *Do Crag*.—A precipitous and dangerous-looking hill west of Rich Garh and south of

Monte Rosa. It is not as difficult to climb as it looks. The route to the summit starts on the south side and finishes on the east. A fairly good head is required. The bridle path round Monte Rosa (No. 21) passes close under this hill.

24. *Blundell's Bluff*.—A view point easily accessible by a bridle path taking off from the junction of the Long and Short Chakkars, near Rich Garh (No. 22).

25. *Fraser Gully*.—This is on the bridle path to Dhupgarh (No. 26) about 4 miles from Pachmarhi where the stream which drains the eastern slopes of Dhupgarh (No. 26) is spanned by a stone bridge. There is a path leading down to the water from just below the bridge. Up stream it presents no great difficulties and it has been explored for a mile or so in this direction.

26. *Dhupgarh*.—Elevation 4,429. Dhupgarh is the highest point in the Satpura hills and indeed in Central India. There is a good motor road leading to the foot of the hill—distance 4 miles, whence the hill is climbed by a steep foot path for about a mile. There is a Rest House on the plateau about 250 feet below the summit of the hill, and water is available from a spring about $\frac{1}{4}$ mile north-east of the Rest House. The view from the summit is extensive in all directions.

There is an alternative route by a bridle path *via* Fraser Gully, which is about a mile longer than the foot path reached by the motor road.

It is also possible to climb Dhupgarh up the eastern face. It is a difficult climb, and should not be attempted by anyone who has not a good head for heights. The ascent is made up a dry water-fall round the first bend in the hill about $\frac{1}{2}$ mile from the terminus of the motor road. The rock is sound and there are good hand and foot holds, so that with due care there need be no fear of an accident. A rope can be taken but is not necessary.

27. *Lady Robertson's View*.—A view point with a seat on the motor road leading to Dhupgarh (No. 26). The nearest water is nearly $\frac{1}{2}$ mile in a north-west direction.

28. *Pansy Pool*.—A beautiful spot on the Denwa stream about $1\frac{1}{2}$ miles from its source, among tree ferns and semi-tropical vegetation. Cool and shady in the hot weather. It is reached by the motor road to Dhupgarh (No. 26) about 3 miles, followed by a steep descent by foot path $\frac{3}{4}$ mile, with a drop of 500 feet. Pansy Pool itself is only just big enough to swim in, but a short distance down stream is a long and deep bathing pool. There are other bathing pools up stream and the upper reaches of the Denwa stream are very beautiful and can be explored from Pansy Pool.

Half a mile or less above Pansy Pool the stream widens into a long deep pool between vertical cliffs. This may be swum by a strong swimmer or it may be avoided by turning up a side stream on the left (western) bank of the

main stream, passing through a narrow gorge about 100 yards long where the water is shallow and then up stream for another 200 yards and over an easy pass to the left which brings one back into the main stream. This can be explored up stream without further difficulty. The courses of these streams are wrongly shown on all maps, both new and old.

29. *Titanga Pahar*.—The ascent of this hill is best undertaken from Pansy Pool (No. 28). There is a little steep rock climb up a small ravine almost opposite the lower end of the long deep bathing pool below Pansy Pool (No. 28), followed by about 2 miles nearly level, in which care must be taken to keep to the water-parting without indulging in short cuts. Finally there is a short climb to the top of the hill which is not very difficult. The view, especially to the south, is very fine indeed. There is no water to be had after leaving Pansy Pool.

30. *Pathar-chatta*.—A good bathing pool in the Denwa stream about $\frac{1}{4}$ mile below Pansy Pool (No. 28). A cool picturesque picnic spot. The path from the motor road to Pansy Pool (No. 28) and Pathar-chatta is the same for the first half mile. Here the path forks, the right hand branch leading to Pansy Pool (No. 28) and the left to Pathar-chatta. Descent to the latter is a little steeper than that to Pansy Pool (No. 28) but it is not really difficult and coolies with tiffin baskets, etc., can easily manage it. It is possible to walk down stream from Pansy Pool

(No. 28) to Pathar-chatta dry shod. From Pathar-chatta to Waters Meet (No. 31), a distance of about a mile down stream, the first 300 yards or so does not involve swimming. From this point, however, the stream passes through a narrow defile formed by cliffs several hundred feet high, the water is very deep in places, and resting places are only to be found at fairly long intervals. It is an interesting swim and the flow of the stream is negligible, so that it may be undertaken from either end. It is nowhere necessary to swim more than 50 yards without a rest. The whole swim is perhaps $\frac{1}{2}$ mile. Those undertaking this swim should either be fairly good swimmers or should have some assistance at hand, e.g., an inflated motor tube, to fall back on if necessary.

31. *Waters Meet or Fuller's Khud.*—This is the third and lowest of the picnic spots on the Denwa. There are fairly good bathing pools both below and above the meeting of the waters, and the scenery is perhaps finer than at either of the other two. A path about $1\frac{1}{2}$ miles long leads down from a spot marked by a board on the Long Chakkar near Keatinge Point. The temperature down by the stream at this and the other pools by the Denwa never rises much above 80° even in the hottest part of the day in the hot weather. The temperature of the water in the stream coming from the east at Waters Meet is several degrees cooler in summer and warmer in winter than that of the main Denwa. This is due to the fact that this stream flows down from

Fleetwood junction between narrow and lofty cliffs which shut out the sun in summer and prevent radiation and cooling in winter.

32. *The Chimney*.—This is an alternative route to Waters Meet (No. 31) down a ridge to the west of the valley in which lies the ordinary path. This climb is interesting but not really difficult or dangerous. It is better to negotiate it first from below, firstly because it is a little easier to ascend than to descend, and secondly because you cannot lose your way coming up a ridge, though it is easy to do so going down.

33. *Marten's Leap*.—This is still another route to or from Waters Meet (No. 31). It is difficult and rather dangerous climb, which should not be undertaken except by those who have good heads and experience in rock-climbing. It involves some steep rock climbing, in which, however, the holds are good, followed by a crossing over a deep chasm about 5 feet across which can only be jumped with difficulty as the far edge is higher than the "take off". This ascent is up the ridge to the east of the ordinary valley path.

34. *The Crevasse*.—A little less than $\frac{1}{2}$ a mile down the ordinary path to Waters Meet (No. 31) and about 10 yards to the left of that path is a large vertical chasm, a rather dangerous pitfall for the unwary. By going down into the ravine a distance of only about 20 yards to the east of this Crevasse it will be seen that the course of the stream in the ravine is blocked by a natural

cross dam, and the whole of the water flowing down the valley is diverted into an underground channel which, however, is dry except in the rains. The entrance to this channel is about 5 feet by 4 feet and the passage gets bigger as it goes into the ground. After a few yards in semi-darkness a large lighted hollow, open above and below, is reached. This hollow is the above described Crevasse, which is a water course and a waterfall combined during the rains. In the dry weather it is possible to climb down the Crevasse and thence right down to join the path below, but it should not be attempted by the inexperienced climber.

35. *Crump Crag*.—One of the best of the view points, easily accessible from the motor road to Dhupgarh (No. 26) between Keatinge Point (No. 36) and the top of the path leading to Pansy Pool (No. 28). A good picnic spot, but there is no water available near at hand. Distance $3\frac{1}{2}$ miles from Pachmarhi.

36. *Keatinge Point*.—A pretty view looking down the valley towards Waters Meet (No. 31), close to the motor road round the Long Chakkar, 3 miles from Pachmarhi. There is a small perennial spring in the valley about 150 yards below this point.

37. *Lansdowne Point*.—A fine view point marked by a stone monument erected to commemorate the visit of Lord Lansdowne as Viceroy in 1893. Easily accessible from a point in the motor road round the Long Chakkar about 2 miles from Pachmarhi.

38. *Fleetwood Junction*.—This is a 'tri-junction' of streams which join the Denwa at Waters Meet (No. 31). The junction is about a mile from Waters Meet (No. 31) but it has so far never been reached. It might possibly be reached by following the stream up from Waters Meet (No. 31). The path to Fleetwood Junction leaves the motor road round the Long Chakkar near the turning to Panorama Hill, 2 miles from Pachmarhi. The foot path descends gently for about $\frac{1}{2}$ a mile and ultimately overlooks the junction.

An interesting and easy descent into the valley just above Fleetwood Junction may be made by turning sharp left from the path about 200 yards before it comes to an end and skirting the hillside until a deep narrow rift in the hillside is met, down which it is easy to descend to the water's edge. The valley below this point may be explored down stream through a dark and narrow opening for some distance, but eventually further progress is arrested by a vertical waterfall of some 50 feet in height. This must be only a hundred yards or less from the inaccessible tri-junction.

By exploring up stream some fine scenery and good climbs can be had, leading to Best View (No. 40) or Panorama Hill (No. 39).

39. *Panorama Hill*.—A good and easily accessible view point, reached by a walk of $\frac{1}{2}$ a mile along a bridle path from a point 2 miles out on the motor road round the Long Chakkar.

40. *Best View*.—Another good view point looking over the sources of the Denwa from Mahadeo (No. 44) to Dhupgarh (No. 26), and alongside the branch motor road from the Long Chakkar road between Panorama Hill (No. 39) and Handi Kho (No. 42).

41. *Mount Morris*.—A comparatively low ridge near Handi Kho easily accessible by a short walk from the motor road round the Long Chakar, $\frac{1}{4}$ mile from Handi Kho (No. 42).

42. *Handi Kho*.—A deep narrow valley with precipitous sides and ending in a precipice some 300 feet in height. The view from the head of the valley close to the motor road is impressive. The valley contains a perennial stream and dense forest of wild mango and Champa (*Michelia*), a rare tree. The bottom of the valley can be reached by climbing down a ridge on the left side of the valley starting from a point 800 yards from the Handi Kho railings. The ascent on the opposite side of the valley can be made from a point about $\frac{1}{4}$ mile further down the valley. There is only one way up, and it involves climbing up the face of an almost vertical rock by means of a creeper, and is not easy to find.

43. *Forsyth Point*.—A fine view point looking on to Mayne Rock and Chauragarh. It is reached by a path about $\frac{1}{2}$ mile long branching from the Mahadeo road about 3 miles from Pachmarhi. Following the edge of the cliff in the direction of Handi Kho for a distance of about a mile will be found a very curious narrow rift in the rock, which can be explored to the

bottom where it opens on to the precipice overlooking Handi Kho stream.

44. *Mahadeo*.—This is the second highest hill in the vicinity of Pachmarhi, being only 70 feet lower than Dhupgarh. The view from the summit is very fine. It is about $5\frac{1}{2}$ miles from Pachmarhi. The first half of the way is along the Long Chakkar and a motorable road, but the second half must be done on foot. The climb is neither difficult nor dangerous.

45. *Mahadeo Caves*.—These are situated about $5\frac{1}{2}$ miles from Pachmarhi. The first 3 miles is along the motor road, and the last $2\frac{1}{2}$ miles can be ridden or walked. The cave is a natural one with a fairly large opening, from which issues a small stream. The cave only extends about 50 feet into the hill. A priest lives at the mouth of the cave and sounds a bell at intervals. The place is sacred to Hindus and is visited by large numbers of pilgrims in February. The valley below the cave is worth exploring in the hot weather on account of its stream and vegetation.

46. *Chauragarh*.—Two and a half miles from Mahadeo Caves (No. 45) is the hill of Chauragarh, one of the most prominent landmarks in the Satpura hills. This hill is not difficult to climb by the well-worn pilgrim route, though otherwise it is unscalable. There is a little water to be had about half way, but none on the hill proper. The summit is covered with scrub jungle and there is a curious pile of some hundreds or possibly thousands of iron tridents de-

posited by centuries of pilgrims. Fine views are obtained from points a little below the summit of the hill.

47. *Mayne Rock*.—A view point, easy of access, about $1\frac{1}{2}$ miles by foot path from Handi Kho (No. 42). The view in the direction of Chauragarh (No. 46) is exceptionally fine. There is no water available. Mayne Rock has been climbed from below from the point where the Handi Kho stream turns abruptly to the east. It is a very difficult and dangerous climb, needing an expert climber with a good head.

48. *Malcolm Point*.—The path leading south-east, from Handi Kho (No. 42) towards Mayne Rock (No. 47), branches to the left at a distance of about $\frac{3}{4}$ mile from Handi Kho (No. 42). Half a mile or so along this path brings one to Malcolm Point, whence a fine view is obtained of Chauragarh (No. 46), the Island Rock (No. 50) and the deep valley below.

The path from Handi Kho (No. 42) to Malcolm Point is nowhere difficult. There is no water near Malcolm Point.

49. *The Bishop's Squeeze*.—This is a narrow crack between two masses of rock below Malcolm Point (No. 48) between which it is necessary to pass on the way to the stream below. A good morning walk with delightful scenery, mostly along a little-frequented mountain torrent, is obtained by dropping down from Malcolm Point (No. 48) through the Bishop's Squeeze to the junction of two streams and then

up the main stream to the point where it turns abruptly north to Handi Kho (No. 42). From this point there is an ill-defined path up a ridge leading under Forsyth Point (No. 43), whence a short walk leads to the motor road.

50. *The Island Rock*.—This is a formidable looking massif standing out rather isolated with precipitous sides and a plateau of several hundred acres on the top. It may be climbed without much difficulty on the south side, but not up the S. W. ridge. It is approached *via* Malcolm Point (No. 48) through the Bishop's Squeeze (No. 49) down to the stream, which is crossed. An ill-defined path skirts the Island Rock Hill in a south-easterly direction. No water, except in the valley below.

51. *Fairy Pool*.—A pretty little bathing pool about 2 miles from Pachmarhi *via* a path starting from near the Station Staff Officer's bungalow. The climb down to this pool is considerably less than that to the pools on the Denwa stream.

From Fairy Pool one may explore up the valley where there are some very picturesque bits, or down a short rocky gorge overlooking the drop to Big Falls.

52. *Big Falls*.—The stream flowing down through Fairy Pool passes over the face of an almost sheer precipice some 350 feet in height, forming Big Falls. The volume of water is small except in the rains, but none the less these Falls are well worth seeing. A fine view of the Falls is obtained from the railings erected on

the path which passes the turning to Fairy Pool (No. 51). After another $1\frac{1}{2}$ miles this path leads to the pool below the Falls. The pool is deep and the water cold in the afternoon. The morning is the time to bathe in this pool, while the sun is on the Fall.

53. *Colleton Crag*.—A good view point looking east down the valley of the Baingunga. It is about $\frac{3}{4}$ mile nearly level walk from the Station Staff Officer's bungalow.

54. *Clematis Point*.—A delightful view point and picnic spot, only about $1\frac{1}{2}$ miles from Pachmarhi. The path, which is an easy one and nowhere very steep, leads past the Military Hospital along a ridge. Those who feel energetic can go further than Clematis Point by crossing the rather precipitous dip on the east and climbing on to the rocky heights beyond, from which a still more extensive view is obtained.

55. *The Green Patch*.—This is a damp grassy opening in the forest, always green and fresh and close to a small stream right below Clematis Point (No. 54). It can be reached by starting from near the Officers' Mess by an easy path which descends the precipitous scarp to the south of the ridge leading to Clematis Point (No. 54). From the Green Patch it is possible to climb up to the dip between Clematis Point (No. 54) and the rocky summits to the east of it by a rather difficult but not dangerous route known as *Panic Pass* and thence home *via* Clematis Point.

56. *The Caves*.—Five ancient dwellings excavated in the sandstone rock in a low hill about $\frac{3}{4}$ mile south-east of the Tahsili. These excavations are not now occupied; in fact they retain water for several months in the year. It is these caves which give the name of Pachmarhi to the locality. There is a fine view over the station from the top of the hill above the caves.

57. *The Hog's Back*.—This is the name of the ridge running west-south-west from near the Post Office, separating the Plateau into two unequal parts. It is reached by a path from the motor road round the Short Chakkar.

58. *Helen's Point* is reached by going about $1\frac{1}{2}$ miles along the Rorhi Ghat Trail and then branching left-handed for a distance of approximately 1 mile, going from ridge to ridge and keeping always in the direction of a prominent crooked tree on a hill.

Helen's Point is just to the right of this and is on the edge of a precipice commanding a wonderful view of the upper gorges of the Denwa river.

59. *Piccadilly Circus* is reached by clambering down from Helen's Point (No. 58) until a branch of the Denwa is reached. A short scramble of 200 yards down stream brings you to this tri-junction of streams.

60. *White Fish Gorge* is reached by swimming up the right-handed stream (facing up stream) at Piccadilly Circus. The gorge is reached after a $\frac{1}{4}$ of a mile and is very narrow, with

deep water. Progress through this gorge is made by turning sideways and pushing oneself along by the hands with occasional foot-holds under water to help. The cliffs on both sides touch the back and chest simultaneously and a great portion of the journey is in semi-darkness. A big pot-hole eventually appears on the right where swimmers may warm themselves. There are white fish in the deep pools and to those who like such places this is the most interesting excursion which can be undertaken in Pachmarhi. The route back is the same as far as Piccadilly Circus (No. 59) and then down stream to Pansy Pool (No. 61).

This should not be attempted when there is any danger of rain as the narrow gorge fills up very quickly.

61. *Piccadilly Circus to Pansy Pool*.—The route goes down the main stream from Piccadilly Circus through five long swims of from 120 to 200 yards in length. These are called Virgin's Vista, Serpentine Grotto, Spray Swim, Waterfall and Bouncers Plunge, and Knee Deep. (See sketch attached, page 81.) In addition there are numerous smaller pools. The main swims are chiefly through narrow chasms, the water being deep and the rocks being some 300 feet sheer above the river. Neat brandy should be taken and rope-soled shoes be worn to swim and scramble in.

GLOSSARY OF PLACE-NAMES IN PACHMARHI

Name of place	After whom named	
1. Best View ..	The Hon. J. W. Best, O.B.E., I.F.S.	Deputy Conservator of Forests, Hoshangabad (1914—1918).
2. Bishop's Squeeze.	The Rt. Rev. Eyre Chatterton, D.D.	Bishop of Nagpur (1905).
3. Blundell's Bluff.	Major R. S. Moss Blundell, M.C.	27th Light Cavalry. Instructor, School of Musketry, Pachmarhi (1916—1919).
4. Colleton Crag.	Sir Robert Augustus Colleton, Bart., C.B.	Captain, 23rd Royal Welsh Fusiliers, and Instructor, School of Musketry, Pachmarhi (1890). Afterwards Brigadier-General (1912).
5. Crump Crag	Sir H. A. Crump, K.C.S.I., I.C.S.	Financial Commissioner, Central Provinces (1910 to 1920).
6. Daisy Khud ..	Miss Marguerite Woodburn.	Daughter of Sir John Woodburn, K.C.S.I., I.C.S., Chief Commissioner, Central Provinces (1893—1895).
7. Do Crag ..	Miss Dorothy Crump.	Daughter of Sir H. A. Crump, K.C.S.I., I.C.S.
8. Dorothy Deep	Mrs. T. G. N. Stokes.	Wife of Lt.-Col. T. G. N. Stokes, Director of Public Health (1910).
9. Duchess Falls..	Miss Beresford..	Daughter of Mr. J. S. Beresford, C.I.E., Chief Engineer, Central Provinces (1893—1896).
10. Fanshawe Khud.	Sir Arthur Fanshawe, K.C.I.E., C.S.I., I.C.S.	Central Provinces Commission (1871—1881). Afterwards Director-General of Post Offices, India (1889—1906).

Name of place	After whom named	
11. Fleetwood Junction.	Fleetwood Junction in England.	..
12. Forsyth Point	Captain J. Forsyth, Bengal Staff Corps.	Settlement Officer and Deputy Commissioner, Nimar. On special duty in the Hoshangabad district. Discovered Pachmarhi and built the first house, named "Bison Lodge."
13. Fraser Gully..	Sir Andrew Fraser, K.C.S.I., I.C.S.	Chief Commissioner, Central Provinces (1899—1902). Afterwards Lieutenant-Governor of Bengal.
14. Fuller's Khud	Sir Bampfylde Fuller, K.C.S.I., C.I.E., I.C.S.	Commissioner of Settlements, Central Provinces (1885—1894). Afterwards Commissioner, Jubbulpore Division, and Lieutenant-Governor, Eastern Bengal and Assam.
15. Helen's Point	Miss Helen Henderson	..
16. Irwin Point ..	Mr. Henry Irwin, C.I.E., M.I.C.E.	Executive Engineer, Pachmarhi (1881).
17. Keatinge Point.	Colonel R. H. Keatinge, V.C., C.S.I.	Chief Commissioner, Central Provinces (1870—1872).
18. Kitty Crag ..	Miss Kitty Crump.	Daughter of Sir H. A. Crump, K.C.S.I., I.C.S.
19. Lansdowne Point.	The Marquis of Lansdowne, K.G., P.C., G.C.S.I., G.C.M.G., G.C.I.E.	Viceroy and Governor-General of India (1888—1894). Visited Pachmarhi in 1893.
20. Malcolm Point.	Mr. W. Malcolm Low, I.C.S.	Commissioner, Nerbudda Division (1877).

Name of place	After whom named	
21. Marten's Leap	Mr. J. T. Marten, C.S.I., I.C.S.	Revenue Member 1925-1927. Acting Govr. 1927.
22. Mayne Rock.	Mr. Arthur Mayne, I.C.S.	Excise Commissioner, Central Provinces (1913-1916).
23. Mount Morris	Sir John Morris, K.C.S.I.	Chief Commissioner, Central Provinces (1868-1883).
24. Mayhew Peep	Mrs. A. I. Mayhew.	Wife of Mr. A. I. Mayhew, C.I.E., Director of Public Instruction, Central Provinces (1914 to 1921).
25. Lady Robert-son's View.	Lady Robertson, C.B.E.	Wife of Sir Benjamin Robertson, K.C.S.I., K.C.M.G., C.I.E., Chief Commissioner, Central Provinces (1912-1920).
26. Sambourne Caves.	Captain F. C. S. Sambourne.	Deputy Judge Advocate-General, Allahabad (1900-1904). Afterwards Lieutenant-Colonel Sambourne-Palmer, Commanding 11th Rajputs.
27. Saunder's Pool	Mr. Arthur Leslie Saunders, C.S.I., I.C.S.	Central Provinces Commission (1885-1901). Afterwards Commissioner, United Provinces (1907-1917).
28. Woodburn Cliffs.	Sir John Woodburn, K.C.S.I., I.C.S.	Chief Commissioner, Central Provinces (1893-1895). Afterwards Lieutenant-Governor of Bengal.
29. Woodburn Khud.		

PLANTS

I. The following are the principal trees:—

Anogeissus latifolia (dhaura).—Tall, with smooth greyish-green bark. Leaves turn reddish before falling.

Anogeissus sericea (kardhahi).—Large with dark bark. Leaves are elliptic, very silky beneath and one to two inches long. Abundant near the station and also planted.

Bauhinia variegata (kachnar).—The most striking tree on the plateau in March when it flowers. Flowers white or pink, the uppermost petal darker and variegated. The twin leaflets are joined two-thirds of the way up.

Bombax malabaricum (semal).—The cotton tree. Very large, producing brilliant red flowers in February-March. The digitate leaves appear later. The cotton round the seeds is often used for stuffing pillows.

Buchnanian Lanza (achar).—Small, with rough tessellated bark. The black fruits ripen in May and yield an edible seed-kernel (*chironji*).

Cassia Fistula (amaltas).—The Indian Laburnum with handsome yellow pendulous flowers and a long cylindrical pod. Conspicuous on the plateau in May-June.

Cedrela Toona (tun).—Tall, nearly evergreen with imparipinnate leaves which may exceptionally run up to four feet long. Common in Handi Kho and the damper ravines and also planted as a roadside tree on the plateau.

Chloroxylon Swietenia (ghiriya or bhirra).—Small, with rough yellowish corky bark and pinnate leaves.

Citrus medica (nimbu).—Small, forming thickest along streams—Pathar-chatta, Nimbu Bojh, Piccadilly Circus, etc.

Cochlospermum gossypium (ganiar).—Small, with fluted bark. Conspicuous on account of its large bright yellow flowers in the months of February and March when it is leafless.

Dalbergia paniculata (phansi).—Tall, straight, with smooth grey bark. Leaves imparipinnate. Flowers bluish-white appearing May-June. Wood useless. Common.

Dillenia pentagyna.—Flowers yellow, clustered on nodes of the old wood, 1 inch across appearing before the leaves. Leaves often 2 feet long. Big Falls.

Diospyros Melanoxylon (tendu).—Medium-sized, with grey-black bark often cleft in oblong plates. The scanty heartwood is ebony. Fruit edible.

Elacodendron glaucum (jamrassi).—A small tree with grey-black bark with elliptic crenate-serrate leaves about 5" by 2½". Common.

Emblica officinalis (aonla).—Small, with light grey exfoliating bark. The branchlets carry as many as one hundred linear-oblong leaves about one-third to one-half an inch long. Fruits fleshy, up to an inch in diameter. Very common.

Euphorbia Nivulia.—Attaining a height of 30 feet with straight trunk, jointed, spreading, often whorled branches, with straight geminate spines. Spines not on prominent tubercles. Commonly, but wrongly, called a cactus. Common on dry rocky slopes. Leafless except in the rains.

Ficus bengalensis (bar).—The Banyan. Both this and the next two species are also planted.

Ficus religiosa (pipal).

Ficus infectoria (pakar).

Ficus glomerata (gular).—Large, with thick crown and red globose figs.

Ficus gibbosa.—Small, with alternate sub-rhomboid scabrid leaves.

Ficus retusa.—Medium sized, with coriaceous, elliptic or obovate leaves.

Ficus tomentosa.—Medium sized, with ovate-oblong leaves clothed with a woolly tomentum beneath.

Gardenia latifolia (papra).—Small, with pale smooth bark, resinous buds and large obovate leaves. Flowers large, white, strongly scented, fading yellow.

Glochidion velutinum.—Small, with dark brown rough bark and elliptic-ovate pubescent leaves. Common.

Hardwickia binata (anjan).—Tall and handsome, with dark grey rough bark and paripinnate leaves consisting of a pair of leaflets with a

minute bristle between. Frequent between Pipariya and the foot-hills and a few trees near Big Falls.

Holarrhena antidysenterica (dudhi).—Small, with white fragrant flowers. Fruit of two separate follicles (7 to 10 inches long) like a pitchfork. Common.

Lagerstroemia parviflora (lendia).—Small, with light brown thin bark exfoliating in long scales. Flowers white, fragrant. Fruit a woody capsule remaining long on the tree. Common everywhere.

Litsaed chinensis (maida lakri).—Small, with grey bark. Blaze dirty white, very viscid. This, the only local laurel, is very common, ascending even to the top of Dhupgarh.

Madhuca latifolia (mohwa).—Large, with grey bark, a rounded crown and elliptic leaves up to nine inches long. The ripe corollas are an important article of food and are used for the distillation of spirit. The large fruits yield a valuable oil.

Mallutus philippinensis (rori).—Small, with rhomboid leaves covered below with small red glands. Capsule covered with red glands which are the source of the *kamela* dye. Very common.

Mangifera indica (am).—Common in most shady ravines. The fruit ripens in June and thousands of head-loads are brought up to the plateau where they find a ready sale in the bazar.

Michelia champaca (son champā).—A rare and beautiful evergreen tree with leaves up to a foot

long, sweet-scented yellow flowers and scarlet seeds. It forms a nearly pure forest at the bottom of Handi Kho. Scattered trees occur near the Mahadeo caves and a few trees are planted in the bazar.

Mimusops hexandra (khirni).—Small, with elliptic-obovate leaves often emarginate at the tip. Flowers small, white. Fairly common.

Ougeinia dalbergioides (tinsa).—Moderate-sized, very pretty in February-March when its masses of pale lilac flowers are open before the new leaves appear. Timber very valuable. Common on the ascent to Pachmarhi.

Pterocarpus Marsupium (bija).—Large, with pinnate leaves (5 to 7 leaflets) and an orbicular, compressed, winged pod about the size of a rupee. The yellow flowers are formed about September-October. Timber valuable. Common on the plateau.

Salix tetrasperma (bainsa).—A typical willow with flowers in catkins (October) and alternate lanceolate leaves. Streams below Pachmarhi (not common) and planted in the Government Garden at Pachmarhi.

Shorea robusta (the sal).—A large gregarious tree forming pure forest on many of the slopes round the plateau. Bark dark brown, furrowed. Leaves ovate, 4—10 inches long, smooth and shining. The tree is leafless only for a very short period and the new leaves appear with the cream coloured flowers in March. Timber valuable.

Sterculia urens (kulu).—Fair-sized, with papery greenish-white bark. Leafless except in the rains. Very common.

Syzgium Jambolanum (jamun).—Medium-sized evergreen, with white fragrant flowers and a juicy purplish-black edible fruit. Common everywhere but especially near water.

Tectona grandis (sagon).—Teak. The most valuable timber tree in the province. Fair-sized with quadrangular stems and large leaves which are shed in the cold weather. The terminal panicles of white flowers are conspicuous in the rains. Seen from the road up to Pachmarhi but does not ascend above 2,000 feet.

Terminalia bellerica (bahera).—Large, with wide-spreading crown and buttressed trunk. The greenish-white flowers have an unpleasant smell. Fruit sub-globose—the Belleric myrabolan—of inferior quality.

Terminalia Chebula (harra).—Very common all over the plateau. The flowers appear with the new leaves in April-May. Fruit obovoid, sold as Chebulic myrabolams for tanning.

Terminalia tomentosa (saj).—Large, with dark cinereous rough bark, deeply cracked and elliptic leaves 5'—9" long, permanently pubescent beneath. Fruit 2—3 inches long with 5 broad wings. Common.

Wrightia tinctoria (dudhi).—Small, with pretty white flowers (April). Fruit a pair of long follicles united at their tips. Common.

Wrightia tomentosa (dudhi).—Small, with pale yellow flowers with orange coronas. Fruit of two connate follicles. Infrequent.

OTHER TREES

Other trees planted on the plateau are—

Araucaria Bidwelii.—This Monkey-Puzzle is a striking object in the Government garden.

Cupressus torulosa, etc.

Various species of *Eucalyptus*, mainly planted on the golf course.

Grevillea robusta.—The silver oak. A native of Eastern Australia with twice-pinnatifid leaves silvery beneath and racemes of orange flowers. (March-April). Much planted as a road-side tree but tends to become stag-headed.

Delonix regia (gul mohar).—A native of Madagascar, with magnificent trusses of crimson flowers (May-June).

Jacaranda ovalifolia.—A beautiful tree, with opposite leaves and foliage otherwise resembling the acacias bearing panicles of handsome blue flowers in March. Native of Brazil.

Juniperus.—A few species have been planted.

Stenolobium stans.—A small tree or large shrub from the West Indies, with pinnate leaves and golden-yellow flowers in terminal clusters.

Pinus longifolia (chir).—The only pine planted in Pachmarhi.

SHRUBS

II. Shrubs.—

Berberis asiatica (daduhard).—A typical Barberry with small 1 to 5 partite spines and coriaceous toothed leaves. Flowers yellow. Berry purplish-blue. Fairly common but not occurring elsewhere in the province.

Boehmeria platyphylla.—A loose shrub attaining 10 feet in height, with large broadly elliptic leaves 4 to 8 inches long with a coarsely serrate margin. Flowers monoecious in spreading spikes. Common along water-courses.

Chalcas paniculata (raketberar).—This shrub which has for years been cultivated as *Murraya exotica* is common on slopes round Pachmarhi. Evergreen with imparipinnate shining leaves and white fragrant flowers.

Dendrocalamus strictus (bans).—The common bamboo. Culms attain their full height in three months. Clumps flower once only before dying. Common and valuable.

Dodonaea viscosa.—A light green resinous shrub attaining ten feet in height, with winged membranous fruits. Common on dry ridges and sometimes planted as a hedge.

Euphorbia caducifolia.—A much branched thorny shrub, with smooth green bark. Leaves broadly ovate (with crisped margin) up to 3" long falling before the flowers appear. Spines on distant tubercles.

Ficus cupulata.—Grows on rocks with *F. bengalensis* and *F. tomentosa*, its nearest allies, from which it is at once easily distinguishable by its much branched shrubby habit and absence of aerial roots. Common.

Ficus hispida.—A large shrub, with opposite, ovate-oblong leaves 4—9 inches long, scabrid above and hispid below. Common along nalas.

Fluggea leucopyrus (panchdari).—A large stiff straggling shrub, the ends of the branches sharply spinous, the fruits white. Leaves less than one inch long, obovate, emarginate, glaucous, reticulate. Fairly common.

Hamiltonia suaveolens.—A shrub attaining 10 feet in height with lilac flowers appearing in October.

Indigofera pulchella (birhol).—Attaining a height of 10 feet, with imparipinnate leaves and rose-purple flowers. Common.

Lantana aculeata.—A very aromatic prickly plant, with the scent of black currants, the corollas orange. The stem ordinarily straggles but may climb up to 20 feet high under favourable conditions. This plant, introduced from tropical America, spread very rapidly over the plateau and threatened to become a pest. Every effort has been made to eradicate it.

Melastoma malabathricum.—A beautiful bushy shrub attaining seven feet in height. Leaves generally with 3 main longitudinal nerves. Flowers bright mauve-purple up to 1½" diameter

with conspicuous yellow stamens. Common along all streams.

Musa superba (jangli kela).—The wild plantain is most abundant below Big Falls and round Dhupgarh.

Osyris arborea.—A small evergreen bush with coriaceous elliptic-lanceolate leaves, very small flowers and a small hard yellow drupe. Scattered all round the plateau but never very plentiful. Probably parasitic on the roots of other plants.

Petalidium barlerioides.—A handsome shrub reaching eight feet in height, with papery bark and large white flowers which appear in March. Common in places and difficult to walk through.

Phoenix humilis.—This small palm is very common.

Rhamnus Wightii.—A large glabrous unarmed shrub, with alternate, elliptic-acuminate leaves 3 to 4 inches long. Fruit a small obovoid reddish drupe. Infrequent.

Rhus parviflora.—A large shrub, with palmately trifoliate leaves. Flowers small greenish. Fruit small, ovoid, compressed, red-brown. Common.

Schefflera venulosa.—A large climbing or epiphytic shrub attaining three feet girth, with digitate 5—7 foliate leaves and yellow flowers in paniced umbels. Common.

Sophora interrupta (pili birhol).—Grows up to 8 feet high, with imparipinnate leaves, the leaflets

generally alternate. Racemes laburnum-like of about 14 flowers, conspicuous, flowering when in full leaf in October. Common.

Strobilanthes callosus.—This forms a dense shrubby undergrowth often as much as 10 feet high. This species makes a fine show of bluish purple when in flower and is believed to flower at intervals of seven years. Most of this species flowered in 1932.

Strobilanthes auriculatus.—Less abundant, readily distinguished by the sessile leaves being auricled at the base. Believed to flower at intervals of six years.

Strobilanthes asperrimus.—There is another species of *Strobilanthes* close to *S. Heyneanus* but much rougher with leaves frequently tinged mauve. Abundant near Piccadilly Circus and Kajri.

Woodfordia fruticosa (dhawai).—A large deciduous shrub, with scarlet flowers and lanceolate caudate leaves. Abundant.

Zizyphus rugosa (churna).—A large straggling thorny shrub, with large elliptic leaves and a white edible drupe. Common.

CLIMBERS

III. The following are the principal climbers :—

Bauhinia Vahlii (mahul).—A gigantic climber, with the two large leaflets connate two-thirds of the way up. Flowers large creamy white (May)

Pod large velvety with flat seeds. Rope is made from the bark; the leaves are used as plates; and the seeds are roasted and eaten.

Clematis triloba.—The only local *Clematis*. Flowers white (September-October) and the achenes have long feathery tails.

Gymnema sylvestre.—A stout woody pubescent climber with ovate leaves, small yellow flowers and lanceolate follicles.

Hiptage Madablota.—A large climbing shrub, with flowers having four white and one coloured petal. Flowers in the hot weather. Common in almost all the ravines.

Jasminum grandiflorum (chameli).—A climbing and scrambling shrub occurs in masses on dry hills and slopes all round the plateau. Flowers white. Appears to be a wild form of the cultivated jasmine which supplies most of the perfume used commercially.

Rhaphidophora calophyllum.—A remarkable stout aroid, climbing on rocks by means of adventitious aerial roots; found only in the lower reaches of the Jambu Dwip river and its tributaries.

MISCELLANEOUS

IV. Amongst miscellaneous flowering herbaceous plants the following are worthy of note :—

Ranunculaceæ—*Thalitrum foliosum*.—Graceful fern-like erect herb flowering in July.

Violaceæ—*Viola patrini*.—A lilac violet common along the Jumbudip nala, flowering in March.

Malvaceæ—*Abutilon polyandrum*.—A tall suffruticose herb, with orange flowers (October). Saunders' Pool.

Melastomaceæ—*Sonerilla tenera*.—Delicate little plant 2 to 8 inches high, with pink flowers. Abundant in September.

Begoniaceæ—*Begonia picta*.—Abundant on wet rocks, flowering from August to October.

Umbelliferae—*Pycnocycla glauca*.—With rush-like stems and flowers in heads. On Chauragarh.

Rubiaceæ—*Anotis calycina*.—Abundant on damp rocks flowering throughout the rains.

Compositae—*Erigeron alpinus*.—Titangapahar and Chauragarh.

Campanulaceæ—*Labelia nicotinaefolia* (jangli ganja).—A large herb with milky juice running up to 8 feet high. Flowers pure white, in terminal racemes. On the sides of ravines, flowering in March.

Asclepiadaceæ—*Hoya pendula*.—This fleshy epiphyte, with pendulous branches occurs in all the moister ravines.

Scrophulariaceæ—*Aleotra Thomsoni*.—Abundant everywhere on hillsides in October, probably parasitic on Acanthaceous shrubs.

Lentibulaceae—*Utricularia*.—At least 4 species of these interesting little plants are found on damp rocks in October. Their roots carry tiny bladders which catch infusoria and digest them.

U. striatula, Sm.—Flowers with upper lip of corolla white, the lower white with lilac margins and yellow in the throat.

U. wallichiana Wt.—A slender twining plant, with yellow flowers.

U. graminifolia, Vahl.—Flowers sky-blue.

U. coccinea, L.—Flowers purple. Frequently confused with the last.

Gesneriaceae—*Chirita bifolia*.—About two inches high with two large leaves and a tubular blue flower $1\frac{1}{2}$ inches long. Common on damp rocks. Flowers in July.

Loranthaceae—*Loranthus longiflorus*.—A parasite with tubular red and orange flowers occurring on *mohwa* and other trees.

Araceae—*Remusatia vivipara*.—On rocks in ravines. Reproduces by means of scaly bulbils, scales with hooked awns.

Orchidaceae—*Terrestrial*, *Habenaria grandiflora*.—Flowers in July. The whole plant consists of a single broadly ovate leaf and a naked scape bearing one to four white flowers.

Platanthera Susannae.—Flowers in September. Grows up to four feet high with white fragrant flowers 2—3 inches in diameter having a spur up to 5 inches long. Marten's Leap.

Phajus wallichii.—With yellowish-brown flowers 4 inches in diameter and *Goodyera procera* with spikes of hundreds of small white flowers are common at the bottom of Handi Kho and elsewhere. They flower in March.

Epiphytic.—The most striking are *Dendrobium herbaceum* and *D. crepitatum* abundant on sal trees and flowering in March. The commonest species in *Aerides maculosum* with rose-coloured flowers appearing about the middle of June.

Zingiberaceae—*Hedychium flavescens var. chrysroleucum*.—Stout up to seven feet high, with a tuberous rootstock, a leafy stem and white flowers 3 inches across. In the moister ravines. Flowers October to March.

Gramineae.—Amongst grasses may be mentioned—

Thysanolaena maxima (deobuhari).—Abundant along nalas and used for making brooms.

Pollinidium binatum (babar).—A tufted wiry grass, common on dry hills used for making string and paper.

FERNS

V. *The higher cryptogams*.—The deep shady valleys abound in ferns amongst which may be mentioned—

Cyathea spinulosa (tall tree-fern).—Stipes and main rachis armed with sharp projections.

Alsophila glabra (tall tree-fern).—Recognized at once by the sori being arranged in the shape of an inverted V.

Angiopteris evecta.—Next in size with a large stem half buried in the ground and enormous fronds.

Gleichenia linearis.—A much branched species forming almost impenetrable masses wherever perennial water is exuding.

Leptochilus lanceolatus.—Reminiscent of the Hart's tongue fern.

Osmunda regalis.—The royal fern of the British Isles is abundant along the edges of running streams.

Adiantum capillus-veneris.—The true maiden-hair.

Lygodium flexuosum.—A remarkable climber.

Other cryptogams worthy of mention are—*Lycopodium cernuum* and *Psilotum triquetrum* (on damp rocks) and *Equisetum debile*.

FAUNA

Animal life (excluding birds) is rather scarce around Pachmarhi. The following animals have been observed either on the Plateau or in the neighbouring ravines.

Bos gaurus (The Indian Bison).—These magnificent bovines, standing 17 or even 18 hands at the shoulder frequented the Pachmarhi Plateau in Captain Forsyth's day (about 60 years ago). They are still occasionally seen in the surrounding jungles within 5 or 6 miles of the station.

Canis aurcus (The Jackal).—Common in and around the station. Very noisy in the winter months.

Cervullus Muntjac (The Barking Deer).—Has a loud monosyllabic, periodically repeated alarm call resembling the bark of a dog. Colour rufous brown. Not uncommon.

Carvus unicolor (The Sambhar).—Never seen in the station area but occurs in the less frequented jungles, e.g., near Sambourne Caves, Dhupgarh, Mahadeo, etc.

Cyon dukhunensis (The Wild Dog).—A rufous animal the size of a collie dog—sometimes seen in small parties in the jungle.

Felis pardus (The Leopard).—Leopards are commoner than tigers near Pachmarhi, and they not infrequently take up their quarters in the hills and ravines beyond the Bazaar where they secure an occasional dog or goat.

Felis tigris (The Tiger).—Tigers occasionally visit the Plateau, but they never stay long as food is too scarce and difficult to obtain.

Herpestes smithi (The Ruddy Mongoose).—This rather uncommon animal is found in the forest round the station especially towards Belle View and Monte Rosa.

Hystrix leucura (The Indian Porcupine).—Fairly common in the jungles near Pachmarhi, inhabiting caves and crevices in the rock and coming out at night, doing damage in the station gardens.

Hyæna striata (The Striped Hyæna).—Common but very nocturnal and rarely seen. It is silent and the call often wrongly attributed to it is the alarm call or "Phiou" of the jackal.

Lepus nigricollis (The Black-naped Hare).—Hares are found all over the Plateau and also even on the tops and slopes of the many precipitous hills surrounding the station. This hare is the same as that found in the hills of South India. It is not supposed to be found north of the Godavéri River.

Lutra sp. (The Otter).—An otter, probably the common otter, occurs in the streams below Pachmarhi, e.g., Patharchatta, Waters Meet and Jambu Dwip.

Macacus rhesus (The Bengal Monkey).—This is the small brown monkey, with a short tail. It is not very common but may occasionally be seen on the cliffs near Handi Kho, Fleetwood Junction and elsewhere.

Melursus ursinus (The Sloth Bear).—Occasionally met with in the more densely wooded ravines but is decidedly rare.

Scuirus palmarum (The common Stripes Squirrel).—Common in the station area near houses.

Scuirus indicus (The large Indian Squirrel).—This is a large, handsome animal; prevailing colour chestnut; length, including tail, about 2½ feet. They are not uncommon and may be seen in the bigger tree forest in ravines, e.g., below Bee Falls, Jumbu Dwip, Sambourne Caves, etc.

Scuirus robertsoni.—Common in the jungles and upon rocks around Pachmarhi, but not so common in the station area as the preceding species. This squirrel resembles *Scuirus palmarum*

but is decidedly smaller and has an entirely different note.

Semnopithecus entellus (The Langur).—This is the common large grey monkey with a black face and long tail. They are very common and especially frequent precipitous ground.

They differ from the Langur of Northern India in their call, which is a deep, far-sounding whoop.

Suss cristatus (The Indian Wild Boar).—Fairly common in the jungles round the station. They often enter gardens in Pachmarhi at night and do much damage.

Tetracerus quadricornis (The Four-horned Antelope).—Rather rare but still occasionally seen near Panorama Hill, Belle-View, etc. Colour dull pale brown, sometimes slightly rufous. A silent animal.

Tupaia ellioti (The Madras Tree-shrew).—This small animal resembles a squirrel both in shape and habits. It is not in reality related, even distantly, to the squirrels but belongs to the Insectivora (Hedgehogs, shrews, etc.). It may be recognized from the squirrels by—

- (1) its long pointed nose;
- (2) its uniform brown colour.

It is not rare but frequently overlooked.

Vulpes bengalensis (The Indian Fox).—This interesting little animal was originally common on the Hogs Back and elsewhere, but was

unfortunately exterminated some years ago by Bobbery packs belonging to the residents.

No shooting is allowed within the Sanitarium limits except of carnivora and vermin, viz., tiger, panther, bear, pig, hyæna, porcupine and hares.

BIRDS

About 120 different species of birds are found in the vicinity of Pachmarhi. The more characteristic and interesting are mentioned below:—

Acridotheris tristis (The common Myna).—Common everywhere.

Aegithina tiphia (The common iora).—A small quiet bird, with dark wings and tail, a broad white bar on the wing—lower plumage deep yellow, upper usually black, sometimes dark green. Commonly seen in garden trees.

Alcedo ispida.—This is the well-known common English kingfisher. It is occasionally seen by streams, e.g., Jambu Dwip or Waters Meet.

Alcippe phoebecephala (The Nilgiri Babbler).—A small dull grey-brown bird, frequenting trees in ravines, with a pretty short song.

Anthus maculatus (The Indian tree Pipit).—A brown bird, with streaked breast. Habits of a wagtail. Flies up into a tree when alarmed. A winter visitor only.

Anthus rufulus (The Indian Pipit).—Duller and paler in colour than the above. Common on the golf links. A resident.

Aracnethra asiatica (The Purple Sun-bird).—A minute purple-black bird, with a long curved

bill. Female dull greenish. Sucks nectar from flowers and also eats spiders. Common.

Ardeola grayi (The Paddy Bird).—Common round the lake in Pachmarhi.

Astur badius (The Shikra Hawk).—Resembles the English sparrow hawk but is slower on the wing. Kills small birds on the plateau. Common.

Athene brama (The spotted Owlet).—The well-known owlet of mango-topes.—Very noisy. Rare in Pachmarhi.

Brachypternus aurantius (The Golden-backed Woodpecker).—A large woodpecker with a crimson crest and golden back. Has a very loud discordant call.

Bubo bengalensis (The Rock Horned Owl).—A large-eared owl, found in the larger ravines.

Butastur teesa (White-eyed Buzzard Eagle).—A rather small bird of prey, little larger than a crow. Brownish with a white iris. Fairly common.

Caprimulgus indicus (The Jungle Nightjar).—The only nightjar in Pachmarhi. The call is a series of "chucks" uttered at short intervals, and the effect produced is like that of a stone thrown across ice.

Chloropsis jerdoni (Jerdon's Chloropsis).—A bright green bird, with a purple blue monstachial streak and black throat. Common in the station but not often seen as it is difficult to spot in

the leafy tree cover it frequents. Is an admirable mimic, copying the Shikra hawk, King crow, etc.

Copsychus saularis (The Magpie Robin).—Very common in the station. Black and white. Has a sweet song in April.

Coracias indica (The Roller).—This is the so-called blue jay—not a conspicuous bird when at rest but brilliant blue in two shades when he expands his wings in flight. Common.

Corvus.—Two species of crow are common, viz., *Corvus splendens*, the Indian house crow, with the grey neck, chiefly in the station, and the larger all-black jungle crow (*Corvus macrorhynchus*) both in and around Pachmarhi.

Crocopus chlorgaster (The Southern Green Pigeon).

Crocopus chlorogaster (The Southern Green Pigeon).

These two species are very similar and both are found feeding chiefly on wild figs, in Pachmarhi.

Cyornis tickelli (Tickell's Blue Fly-catcher).—A bird of the size and habits of an English robin, slaty blue above, red below. Common in all ravines. Has a pretty short song.

Dendrocitta rufa (The Indian Tree-pie) with its buff breast and long grey tail tipped with black, is one of the commonest birds on the plateau.

Dicrurus coerulescens (The White Bellied Drongo).—This is the king crow of Pachmarhi hills. It differs from the common king crow of

the plains in being white below. It has a fine almost thrush-like song in the spring.

Galloperdix lunulata (The Painted Spurfowl).

Galloperdix spadicea (The Red Spurfowl).—

Both these species are found on the wooded slopes and among rocks around the plateau.

Gallus sonnerati (The Gray Jungle Fowl).—

Occurs on most of the slopes round the plateau, e.g., Dhupgarh, Monte Rosa, Dorothy Deep, Belle View, etc.

Geocichla cyanotus (The White Throated Ground Thrush).—A slaty blue thrush with an orange breast. Has a fine song. Found in ravines and thick jungle. Not common.

Glaucidium radiatum (The Jungle Owlet).—

Similar in size to the last but the call is quite different. Common.

Graucalus macii (The Cuckoo Shrike).—A rather large grey bird, with a slow flight. Frequents the tops of trees. Has a peculiar habit of invariably raising its wings over its tail, separately, every time it settles on a branch after flight.

Gymnorhis xanthocollis.—(The Yellow Throated Sparrow.)

Gyps fulvus (The Griffon Vulture).—This is the large pale tawny vulture which frequents the cliffs on Dhupgarh, above Jambu Dwip, Clematis Point, etc.

Halcyon symrnensis (The White-breasted Kingfisher).—White breast and large red bill. Often seen away from water. Very common.

Hierococcyx varius (The Brain-fever Bird).—This is the only parasitic cuckoo which stops in Pachmarhi to breed. Its well-known crescendo call may be heard from March to September. It parasitezes the Seven Sisters.

Hirundo erythrophylgia (The Red Rumped Swallow).—Not uncommon in Pachmarhi. Recognized by red rump.

Hypothymis azurea (The Indian Black Naped Fly-catcher).—A dark blue fly-catcher seen not uncommonly in ravines.

Ketupa zeylonensis.—(The Brown Fish Owl).

Lophoceros birostris (The Common Grey Hornbill). A large clumsily-built grey bird with a large bill and a slow heavy flight. A noisy bird with a call somewhat resembling that of a kite. Very common on the plateau.

Merops viridis (The Common Indian Bee-eater).—A little green bird, with metallic gloss and a long pointed tail. Hawks insects on the wing with a graceful sweeping flight. Very common.

Milvus govinda (The Common Kite).—Brown with a forked tail. A very common scavenger.

Molpastes haemorrhous (The Madras Red Vented Bulbul). *Otocompsa emeria* (The Red Whiskered Bulbul).—

Both the above bulbuls are common, the former chiefly in the station. The latter is recognizable from the former by a crimson patch on the face and a very marked and pointed crest. Both species have the red vent.

Motacilla leucopsis (The White Faced Wagtail).—This is the common pied wagtail of the golf links.

Motacilla melanope (The Grey Wagtail).—Frequents marshy ground and streams. Has a yellow breast.

Both the above are cold weather visitors only.

Myiophonus horsfieldii (The Malabar Whistling Thrush).—This is the “whistling schoolboy” of Pachmarhi, and is found in all the deep ravines especially near water. He is the size of an English black-bird, colour a magnificent blue when seen in sunlight, otherwise appears black. His song, heard chiefly from April to June, is of unusual compass and very human.

Neophron ginginianus (The Scavenger Vulture).—A dirty white ugly bird with bare yellow head. Feeds on offal. Common.

Orthotomus sutorius (The Tailor Bird).—A small greenish bird with chestnut on forehead, and pointed tail. Common in compounds. Song noisy and monotonous.

Otocompsa flaviventris (The Black Crested Yellow Bulbul).—A conspicuous but rather rare bird. Occasionally seen in ravine jungle.

Otogyps calvus (The King Vulture).—Black with white flanks and rump and red and face wattles. Not uncommonly seen.

Palæornis—Three paroquets—viz., *Palæornis nepalensis torquatus* and *cianocephalus*.—All are fairly common in Pachmarhi.

Gymnorhis xanthocollis—(The Yellow Throated Sparrow).

Passer domesticus—(The House Sparrow).

Both these are extremely common the former being more of a jungle bird than the latter. The cock of the yellow throated sparrow has a duller plumage than his more domesticated cousin.

Pavo cristatus (The peacock).—Rare on the plateau, but occasionally seen near Keatinge Point and Dorothy Deep. Common near Mahadeo Caves.

Pellorneum ruficeps (The Spotted Babbler).—Common in wooded ravines, about the size of a hedge sparrow, but with a spotted breast. Has a peculiar and characteristic song. Spends most of its time on the ground.

Perdica asiatica (The Jungle Bush Quail).—Common on the plateau north of Jambu Dwip, but not on the Pachmarhi plateau. Gets up suddenly in covies of six to a dozen.

Pericrocotus peregrinus (The Small Minivet).—A beautiful little bird, grey picked out with scarlet. They move about the crowns of trees in pairs or small parties.

Pernis cristatus (The Honey Buzzard).—Rather larger than a kite, but without the forked tail. Feeds on the honey wax and larvæ of the bee which suspends its comb on rocks and trees about Pachmarhi. Not uncommon.

Piprisoma squalidum (Thick Billed Flower-pecker).—A tiny greenish bird which frequents

Loranthus (the parasite on trees). Has a sharp clicking note. Very common.

Pomatorhinus horsfieldi.—(The Southern Scimitar Babbler). Found on Dhupgarh only. Is a skulker with a fine melodious note.

Pratincola caprata (The Common Pied Bush Chat).—A small black bird with white on the wing. Common in the station.

Ptyonoprogne concolor (The Dusky Crag Martin).—A swallow-like bird of a uniform dark slaty grey above and below. Frequents precipitous rocky hills. Seen also in the station.

Rhipidura pectoralis (The White Spotted Fan-tail Fly-catcher).—Common in ravines, Flicks its tail about from side to side, fan-wise. Has a pretty, short song of half a dozen notes.

Sarcogrammus indicus (The Red Wattled Lapwing, the Did-he-do-it).—It is common near the lake and along the Baingunga stream on the plateau.

The common snipe and other waders, e.g., the snippet are occasional winter visitors on the plateau.

Scops giu (The Scops Owl).—A small-eared owl, with a monosyllabic call resembling "What?"

Scops bakkamœna (The Collared Scops Owl).—Similar to the above. The call is a monotonous "Kurook-took" repeated at regular intervals.

Both the above are exclusively nocturnal.

Siphia parva (The European Red-breasted Flycatcher).—Like an English robin in colour and habit. A common winter visitor in the station.

Sitta castaneiventris (The Chestnut Bellied Nutnach).—Common in and around the station running up and down the trunks and branches of trees. Colour slate grey above, chestnut below.

Terpsiphone paradisi (The Paradise Flycatcher).—Conspicuous with its white plumage, black crested head and long white tail streamers. Seen in the valleys and occasionally on the plateau. The hen and young cock birds are rufous brown with black head and crest.

Tinnunculus claudarius (The Kestrel).—Occasionally seen.

Thamnobia cambaiensis (The Indian Robin).—Small, brown with a patch of red under tail, which it is fond of erecting over its back.

Thereiceryx zeylanicus (The Common Green Barbet).—Fairly large (about the size of a myna), heavily built, bright green with a pale brownish head and large beak. Has a loud monotonous call "Kutoor-Kutoor". Very common.

Tits.—There are two tits, both fairly common and about the same size—one a very handsome crested species, the other without a crest. They are, respectively, *Machlolophus haplonotus*, the Southern Yellow Tit, and *Parus atriceps*, the Indian Grey Tit.

Turdoides terricolor (The Jungle Babbler or Seven Sisters).—Noisy and gregarious. Pale earthy brown with white iris to the eye.

Turnix pugnax (The Bustard Quail).—Occasionally flushed, solitary or in pairs.

Turtur cambayensis (The Spotted Dove).—This is the common dove of Pachmarhi.

Turtur Orientalis (The Rufus Turtle Dove).—A rather large dove. Prevailing tint rufus. Call resembles somewhat that of the English wood pigeon.

Upupa indica (The Indian Hoo-poo).—Common in Pachmarhi. Erects its black and orange crest fan-wise when it settles.

Xanthoœma hæmacephala (The Coppersmith).—Purely arboreal and most familiar from its monotonous call. A small heavily built greenish bird with gaudy yellow crimson and black markings about the head.

Zosterops palpebrosa (The White-eye).—A little green bird, with a bright yellow breast and a conspicuous white ring round the eye. Very common in gardens.

LOWER ANIMALS

Earthworms are numerous, but only obtrusively so in the rains.

Centipedes are rather rare and the large red species of the plains has only once been observed.

Crabs are common in the pools in all ravines, some fairly large specimens being occasionally seen.

The Jerrimangalam (*Galeodes sp.*) is common in the station and outside in the hot weather.

They are harmless and in fact useful animals though of somewhat fearsome appearance.

Leeches are fortunately absent, except in the lake.

Millipedes of large size are exceedingly common at the commencement of the rains. They are of course quite harmless.

Scorpions of a small size are often found under stones.

Spiders are common of very many species.

INSECTS

White ants are exceedingly numerous and destructive.

The little conical depressions in the sand formed by the larvæ of Myrmeleonidae (popularly known as 'Ant lions'), at the bottom of which they lie buried, with the large jaws protruded, awaiting the fall of a careless and unsuspecting ant, are common everywhere in the dry weather.

Tiger beetles of a beautiful green metallic colour are common in the hot weather on the golf links and elsewhere.

The Rock bee (*Apis dorsata*) is common on most of the rocky precipices round the station where they suspend their combs under cover protected from rain. Being dangerous and easily disturbed, they should be given a wide berth. Fire and smoke are the best defence for repelling

their attacks. Bees leave the vicinity of Pachmarhi at the break of the rains and do not return until the end of February.

Stink bugs of the families Pentatomidæ and Coreidæ are common.

Cockroaches (*Blatta*) are common. One rather handsome species, found in the rains only, has black upper wing cases, with large yellow markings.

A large species of cricket inhabits a burrow in the ground at the mouth of which he sits and emits a deafening chirruping song, chiefly in August.

Dragon flies of several species, some very beautifully coloured are found along streams in ravines.

Fireflies are not very common but may be seen in the late hot weather.

The common house-fly is a pest as elsewhere.

Asilid flies, which prey upon these and other flies are fairly common.

A gad fly (*Tabanus sp.*) is found in June and July around the plateau. Their bite is very painful.

The potu fly (*Simulium sp.*) is found on the top of Dhupgarh and elsewhere in July-August. It is a small yellowish fly about one-fourth the size of the common house-fly. Its bite is also painful and gives trouble for two or three days afterwards.

Large harnets are found which build his nests of considerable size. These are enclosed in a

wood-pulp paper covering and are usually met with under rocks or suspended in trees.

The praying Mantis is common; also grass hoppers of several species.

Butterflies and moths of many species and of varied and beautiful colours occur both on the plateau and in the valleys.

REPTILIA

Snakes are seldom seen in Pachmarhi except during the rainy months. Poisonous snakes are fortunately rare and of sixty snakes examined in the four year period 1930—34, only a single specimen (*Trimeresurus* sp.), which was killed near the Fairy Camp, was poisonous. This is a bright grass-green viper, with the usual narrow neck and triangular head. Length about 18 inches. A single specimen in previous years was killed near Mayne Rock.

During recent years, at any rate, no instance has been recorded of cobras (*Naia* sp.) being seen in the Pachmarhi station area.

Of non-poisonous snakes, the most important are the following:—

Python molurus (The Indian rock-snake).—This is a large harmless snake attaining a length of 18 to 20 feet. It has handsome reticulate markings all over the body. Found, below Dhupgarh and near Richgarh.

Zamenis mucosus (The Dhamun or rat snake).—This is the commonest snake found around Pachmarhi. The colour is more or less uniform

pale brown. It attains a length up to 11 feet. harmless.

LIZARDS

Calotes versicolor (The Common Blood-sucker).—A tree lizard, with long tail. Colour brownish or yellowish, often with red throat (hence the popular name). Very active. Common.

Chamæleon calcaratus (The chamæleon).—Colour bright green, marked with purplish black, but rapidly changing. Length 12 to 15 inches. Motion very slow and deliberate. Eyes work independent. Not very common and but rarely seen. Harmless.

Hemidactylus sp. (Gecko).—A little tuberculated lizard with toes more or less webbed and adapted to stick on a smooth surface. Length about 6 inches. Common.

Lygosoma sp. (The Skink Lizard).—These little active lizards known as skinks are very common on the ground in the jungle. When disturbed they hide among dead leaves, etc. Colour dark brown or blackish. Length up to 6 inches.

All Indian lizards are quite harmless.

CAVES AND ROCK PAINTINGS

1. Relatively few visitors to Pachmarhi are aware that there are in the vicinity of the plateau a large number of cave shelters of great archaeological interest, containing as they do numbers of rock paintings executed by tribes who lived

in them at some remote date, as yet undetermined.

2. Though the existence of these paintings has been known for many years, and they are mentioned in Best's "Tiger Days," it is only recently that they have received the attention that they deserve. The work of Mr. Maitland and Mr. H. S. George of the Indian Forest Service, Dr. and Mrs. Hunter, and Major and Mrs. Gordon has resulted in the recording of over fifty cave-shelters with paintings, lying between Budhimai, south of Seoni-Malwa on the west, and Tamia on the east. More than thirty of these lie within reasonable reach of Pachmarhi.

3. The paintings are of a number of styles and periods, and though dating is, at this stage, somewhat a matter of conjecture, there are indications, such as parallels with the Ajanta frescoes, to show that the latest do not date later than the 8th or 9th centuries A.D.

4. The oldest may well be of considerable antiquity, but any attempt on the strength of finds of microlithic quartz flakings of a Tardenoisian character to fix on them a European late palæolithic dating is quite out of place.

5. These microliths have been found in or near the majority of the shelters, including some without paintings on the south-east side of Panorama Hill. A few excellent specimens have been picked up quite unassociated with any immediate vicinity of a shelter on the Rohri Ghat Track. A very large number were found



No. I. War.
Mahadeo cave.

by Dr. Hunter in definite association with an ancient burial in a shelter in the Jambu Dwip.

6. The paintings depict warriors with swords and shields, bows and arrows, on foot and mounted; and elephants, tigers, panthers, sambhur, cheetal, monkeys, dogs, oxen, hares, peacocks and other unidentified birds and beasts. Paintings of women are less common than of men, but are fairly common in Marodeo 1st Group and Mahadeo shelter.

7. There are few paintings of a recognizably religious or mythical significance. In the large shelter on the south side of Monte Rosa there is a definite "Gilgamesh" figure well known in Babylonian art, showing in the centre the culture hero, the "Protector in the Herds" dompting a lion and a wild bull while the cattle pass peacefully below. In the large Dorothy Deep cave there are two paintings depicting the Bhut-asana or magical sky chariot. Various shelters have horned "Sorcerer" figures.

8. It is impossible to indicate exactly the whereabouts of these shelters and give detailed instructions how to approach them, even if space were available; all that can be done is to state in general terms the localities where they are found, and this is done in the Appendix. Those of the greatest general interest are the three caves in the Jambu Dwip, the large cave at Dorothy Deep, the small cave on the east side of the conical Marodeo Hill crowned by a

triangular pillar called by the finders the 'chief-tain's cave,' and the Mahadeo cave.

A recent discovery is that of an interesting and accessible rock shelter 'Bunia Berry'. It is situated on the left of the path crossing the nullah when reaching the crest before the steep descent to Sambourne caves.

APPENDIX

Details of shelters with paintings in vicinity of Pachmarhi—West to East.

Naghari Deo	.. An unknown number.	Very difficult to reach unless one camps at Kajri.
Kajri Ghat	.. One	.. On the path between Kajri and the north end of Dhup Garh.
Monte Rosa	.. Four	.. One facing south, the best, and three east. Easily reached from the top of the track to Dorothy Deep, where motors must be left.
Dorothy Deep	.. Four	.. Two above and on the west side of stream; two below and on the east side of falls.
Jambu Dwip	.. Three	.. All on north side in the stretch just north of Chhota Mahadeo.
Bee Stream	.. Two	.. One just above Bee Dam and one round the corner below the spot used for drying.
Nimbu Bhoj	.. One	.. In a north-east projecting corner above the Nimbu Bhoj.
Barian Ridge	.. One	.. About fifty yards west of the track that cuts the ridge.
Barian	.. One	.. Facing the main road on left going up after passing the pond. Nearly all paintings obscured by smoke.

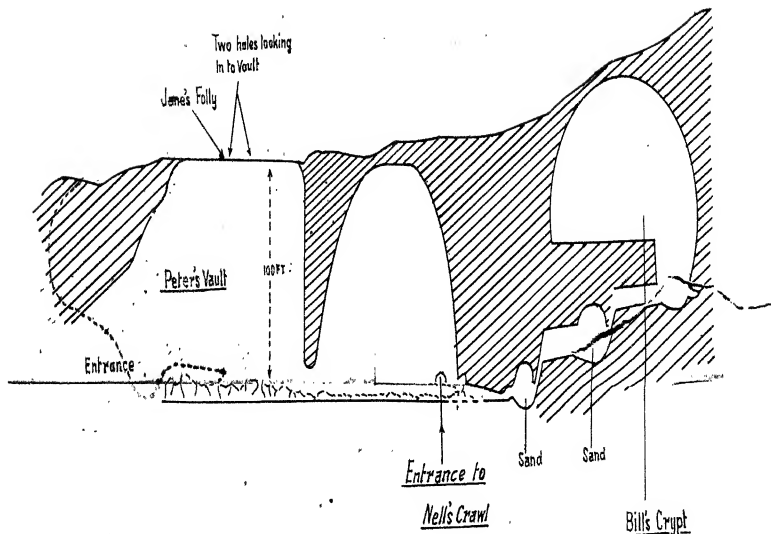


No. III. Bunia Berry.

Marodeo 1st Group Four	..	In vicinity of a small conical hill with triangulation pillar south of track to Sambourne Caves.
Marodeo 2nd Group Four	..	One in vicinity of Sambourne Caves. Three on track to Jhela.
Mayhew Peep	.. One	.. On the south-east side of the most easterly feature of the ridge marked Mayhew Peep.
Bazar	.. Two	.. Behind the Sub-Divisional Office Public Works Department's bungalow. One shelter is now occupied the other is nearly directly above it, and has only one painting.
Mahadeo	.. One	.. At the top and to the south of the east spur of Mahadeo.

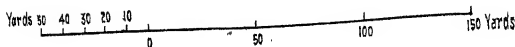
Other shelters are to be seen at Tamia (in the cliff behind the Police bungalow), Bori, Churna, Jhalai, Dauri, Pattan, Hoshangabad, Naigaon, Bhondia Kaf and Bhudimai.

SECTION VIEW OF THE CATACOMBS



Approximate Scale of yards

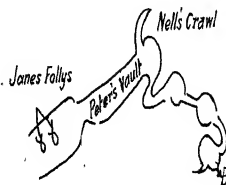
Helen Henderson



Peter Halswell

Bill Birnie

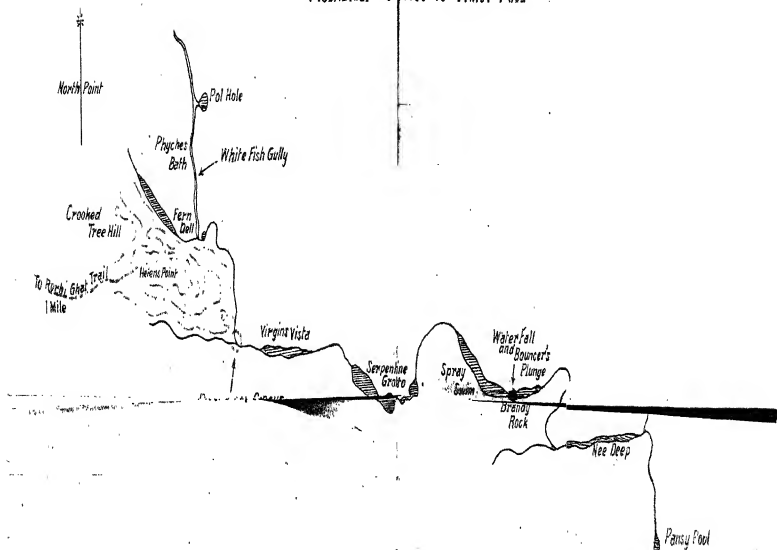
Pachmarhi June 26th 1925.



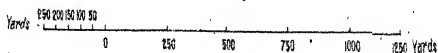
(Sd) G.S.J. Birnie.

Pachmarhi
29.6.25

SKETCH Showing WHITE FISH GULLY AND THE SWIM FROM PICCADILLY CIRCUS TO PANSY POOL



Rough Scale of Yards



(Sd) S.S.J. Birnie
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